

Study of heavy hydrocarbon stock separation by Single-Pass flash vaporization

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Abstract

© 2016 Springer Science+Business Media New York. The work is aimed at solving a scientific problem related to the development of an energy-saving technology for primary heavy hydrocarbon stock processing based on single-pass flash vaporization. Single-pass flash vaporization is enhanced by atomization of heated stock in the apparatus. The phase interface increases several times in this process, making supramolecular convective mass transfer comparable with diffusional transfer, thereby ensuring more than a three-fold increase in the distillate yield in the heavy-oil treatment process with densification of the residual product.

<http://dx.doi.org/10.1007/s10553-016-0748-4>

Keywords

Atomization, Distillate, Heavy oil, Oil residue, Single-pass vaporization